

## INVENTORY OF INERTIAL BRAIN TRAUMA CASES ASSOCIATED WITH AMUSEMENT PARK RIDES: 1964-PRESENT

*Note: this inventory specifically excludes brain injury associated with direct trauma to the head or body, as well as whiplash claims. It seeks to document only the phenomenon of internal injuries leading to medical treatment apparently caused by the routine, non-aberrant operation of the ride without accident.*

**IF YOU HAVE KNOWLEDGE OF ANY ADDITIONAL CASE, YOU MAY CONTRIBUTE TO THIS INVENTORY BY SENDING A REPORT OF YOUR CASE TO REPRESENTATIVE EDWARD MARKEY, U.S. CONGRESS, WASHINGTON, DC 20515, attn. DAVID MOULTON. EMAIL: david.moulton@mail.house.gov.**

### SORTED BY PARK

<u>State</u>	<u>City/Town</u>	<u>Park</u>	<u>Ride</u>	<u>Date</u>	<u>Rider</u>	<u>Injury</u>
England		Blackpool Pleasure Park and Alton Towers Staffordshire	Big Dipper and Pepsi Max and Big One (Blackpool) Nemesis and Oblivion (Staffordshire)	1998	19F	10/98 Inertial decompensation leakage of congenital retinal AV malformation – reduced vision in right eye
VA	Williamsburg	Busch Gardens	Loch Ness Monster	1998	47F	7/25/98 Inertial left retinal tears and detachment – memory loss
VA	Williamsburg	Busch Gardens	Drachen Fire	1998	43M	7/11/98 Acute subdural hematoma
Canada	Toronto	Canadian National Exhibition	Doppel Looping	1992	Unknown	1992 Acute subdural hematomas
Italy	Florence	Cascino Park		1998	47M	5/3/98 Inertial frontal and temporal pole contrecoup contusional hemorrhages and focal subarachnoid hemorrhage

FL	Lake Buena Vista	Disney- MGM Studios	Rock'n'Roller Coaster and Back to the Future	2001	35F	1-3/1/01 Carotid artery dissection, thrombosis, and cerebral infarction – speech deficits, weakness on right side
FL	Lake Buena Vista	Disney- MGM Studios	Rock'n'Roller Coaster	2000	43M	4/28/00 Acute subdural hematoma with rebleed
FL	Lake Buena Vista	Disney- MGM Studios	Twilight Tower of Terror	1998	67M	3/98 Vertebral artery dissection
CA	Anaheim	Disneyland	Space Mountain and Matterhorn Bobsled	2000	23F	6/25/00 - FATALITY Acute rupture of aneurysm involving proximal-most portion of fetal posterior cerebral artery
CA	Anaheim	Disneyland	Matterhorn Bobsled	1998	44F	11/28/98 Possible initiation, with growth and rupture of ant. communicating artery aneurysm (atretic A1 segment)
CA	Anaheim	Disneyland	Space Mountain	1996	45F	8/96 Intracranial hypotension/hypovolemia syndrome due to inertial precipitation of CSF leak.
CA	Anaheim	Disneyland	Indiana Jones	1995	42F	7/17/95 Angular acceleration-induced axonal damage with fornix tear and intraventricular hemorrhage – shunt required
CA	Anaheim	Disneyland	Space Mountain and Star Trek	1992	31M	3/2/92 FATALITY Dissection of vertebral artery with thromboembolism to brain/brainstem
CA	Anaheim	Disneyland	Matterhorn Bobsled	1964	Unknown	6/64 Acute subdural hematoma

TN	Pigeon Forge	Dollywood Theme Park	Blazing Fury	2000	42M	6/29/00 Initial vertebral artery damage, with PICA occlusion and cerebellar infarct
PA	Allentown	Dorney Park	Steel Force	1997	32M	6/23/97 Inertial left-retinal tears and detachment
PA	Allentown	Dorney Park	Steel Force	1997	40F	6/19/97 Inertial precipitation of anterior basal skull CSF leak with intracranial hypotension/hypovolemia syndrome and ensuing compensatory bilateral subdural hygromas/hematomas
PA	Allentown	Dorney Park	Hercules and Tilt-A-Whirl	1995	77M	6/20/95 Acute subdural hematoma
France	Paris	EuroDisney	Space Mountain	1998	35F	1998 Internal carotid artery dissection
France	Paris	EuroDisney	Space Mountain	1997	23M	1997 Pre-existent Chiari I & syringomyelia-rollercoaster induced reversible herniation of syrinx into medulla
France	Paris	EuroDisney	Space Mountain	1996	29F	1996 Internal carotid artery dissection with arterial redundancy
France	Paris	EuroDisney	Big Thunder	1995	52F	1995 Internal carotid artery dissection with arterial redundancy
France	Paris	EuroDisney	Space Mountain	1995	31F	1995 Vertebral artery dissection
France	Paris	EuroDisney	Space Mountain	Unknown	29F	Unknown Vertebral artery dissection

FL and France	Tampa Bay	EuroDisney and Busch Gardens	Big Thunder, Splash Mountain, Wild Arctic, Kumba (Tampa)	1997	37F	5/21-28, 31/97 Inertial acute enlargement of intraspinal enterogenous cyst
TX	San Antonio	Fiesta Texas Theme Park	Rattler Roller Coaster	1992	53M	5/17/92 Latent intracranial hypotension/hypovolemia syndrome due to inertially precipitated upper cervical injury and CSF leak – long-term loss of vision
Japan		Fijikyi Highland Park	Fujiyama and Moonsault Scramble	1998	24F	11/98 Acute subdural hematoma
NJ	Jackson	Great Adventure	Viper and Great American Scream Machine	1997	49M	7/11/97 FATALITY Acute subdural and subarachnoid hemorrhage with brain stem hemorrhages in medically predisposed rider
NJ	Jackson	Great Adventure	Lightning Loops	1978	13F	8/27/78 Compression injury to carotid artery
PA	Hershey	Hershey Park	Comet	1998	7M	9/98 Injury to intracranial arteries by inertial displacement against rigid meningeal free edges, with subsequent spasms and cerebral infarcts
PA	West Mifflin	Kennywood Park	Steel Phantom	1994	16F	10/94 Acute subdural hematoma
PA	West Mifflin	Kennywood Park	Steel Phantom	1992	24F	1992 Acute subdural hematoma

CA	Buena Park	Knott's Berry Farm	Montezooma's Revenge	2001	25F	8/31/01 FATALITY Ruptured middle cerebral artery
NV	Las Vegas	New York, New York	Manhattan Express	2000	58F	3/3/00 FATALITY Acute rupture of cerebral aneurysm
NV	Las Vegas	New York, New York (Unconfirmed)	Manhattan Express (Unconfirmed)	1999	30's	1999 Cervical artery dissection
NV	Las Vegas	New York, New York	Manhattan Express	1998	46F	12/31/98 FATALITY Acute subdural hematoma with intracerebral hemorrhage on anticoagulants
NV	Las Vegas	New York, New York and Primm	Manhattan Express and Desperado	1998	56F	2/98 FATALITY Acute subdural hematoma
CA	Santa Clara	Paramount's Great America	Top Gun, Invertigo, and Vortex	1999	30M	6/4/99 Vertebral artery dissection – vision and attention deficits
OH	Kings Mills	Paramount's King Island	Son of Beast, Outer Limits and Flight of Fear	2001	41M	9/24/01 & 10/1/01 Acute bilateral subdural hematoma – motor deficits
OH	Kings Mills	Paramount's King Island	Outer Limits and Flight of Fear	1998	39F	5/3/98 Inertial traumatic brain injury with post-traumatic headaches, hyposmia, TMJ disorder and cervical dysfunction
OH	Kings Mills	Paramount's King Island	Outer Limits and Flight of Fear	1997	34F	7/8/97 Inertial traumatic brain injury with post-traumatic migraine, cognitive deficits and vestibulo-ocular damage

OH	Kings Mills	Paramount's King Island	Racer, Beast and Vortex	1990	34F	6/26/90 Traumatic pericallosal aneurysm
VA	Richmond	Paramount's Kings Dominion	Volcano the Blast	1999	30F	7/8/99 Inertial traumatic brain injury causing cognitive and vestibular damage
MO	Brandon	Silver Dollar City	Thunderation	1995	39F	10/19/95 Intracranial hypotension/hypovolemia syndrome due to inertial precipitation of spinal CSF leak
CA	Valencia	Six Flags	Riddler's Revenge	1998	43F	6/2/98 Acute subdural hematoma with delayed development of rebleed – memory loss
TX	San Antonio	Six Flags	Joker's Revenge	1999	31F	8/7/99 Inertial traumatic brain injury causing epileptic and non-epileptic seizures, cognitive and vestibular damage
TX	Arlington	Six Flags	Mr. Freeze	1999	34F	4/23/99 Inertial traumatic brain injury causing epileptic seizures, cognitive and vestibular damage
TX	Arlington	Six Flags	Texas Giant	1998	28F	6/14/98 Inertial post-traumatic migraine
TX	Arlington	Six Flags	Texas Giant	1992	37F	10/92 Inertial translational otolith dislocation-inner ear concussion – memory loss
WA	Olympia	Six Flags	Scrambler	2000	31M	7/23/00 Probable vertebral artery dissection with brainstem infarction

TX	Houston	Six Flags Astroworld	Texas Cyclone	1985	16M	1985 Vertebral artery dissection
CO	Denver	Six Flags Elitch Gardens	Mind Eraser	1997	42F	7/12/97 Inertial traumatic brain injury with vestibular-ocular apparatus damage, cognitive deficits and cervical dysfunction
CA	Valencia	Six Flags Magic Mountain	Goliath	2001	28F	6/2/01 FATALITY Ruptured Cerebral Artery Aneurysm
England	Churtsey Surrey	Thorpe Park	X:\No Way Out	2000	11M	8/31/00 Left vertebral artery dissection – fatigue and slurred speech
FL	Orlando	Universal Islands of Adventure	Incredible Hulk	2000	58F	2/22/00 Inertial concussional auditory damage
Unknown		Universal Studios		1999	63M	1999
France	Unknown	Unknown	Unknown	1998		1998 Internal carotid artery dissection – motor deficit
Unknown		Unknown	Scrambler	1991	33F	1991 Vertebral artery dissection
Unknown	Unknown	Unknown	Unknown	Unknown	64M	Unknown Acute subdural hematoma